STATISTICAL BULLETIN

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America's Human Resources for War Production

OUR country has the man power and the woman power, the managerial resources, and the skills to produce all the materials that our armed forces will need to win the war, even if a fighting force as large as eight to ten million men is necessary. Since virtually all service men would be drawn from the main working force, it would seem, at first sight, that our productive capacity would be subjected to a great strain, and that a disastrous breakdown might result. But this is far from the truth, as an examination of the facts will show.

At the last census, that of 1940, America's labor force numbered 53 millions. Normally this number would have increased by over one million since then. The labor force, however, is capable of rather sizable expansion. This would be brought about both by the patriotic fervor of the American people and the attraction of the relatively high wages in war industries. It is entirely practicable to draw as many as seven or eight million additional workers into our labor force if that should be necessary.

The greatest accretions to the war-time labor force would come from the ranks of women and girls. A large proportion of the two million young women between 17 and 19 years of age who are in school or at home, including young married women without children, could be so utilized. One million might easily be drawn from this one group alone. One or two millions of the childless women between 20 and 40 who are now engaged in home duties, could be drawn upon for war work. An even larger number are available among housewives between 40 and 55, who are either childless or whose children are all old enough to look out for themselves. Possibly one third to one half of the 8½ million women in this group could take war jobs.

In comparison, the number of men who can be added to our labor force is much smaller. Even so, the great majority of the million and a half young men between the ages of 17 and 19 not now working, and perhaps also a half million men over 60, could take war jobs. The latter group includes many skilled men,

such as toolmakers and machinists, who were in retirement before the war because of age, but are still able to work. Thus all told, the labor force can be increased by approximately the same number of persons as the maximum number likely to be called for military service.

So far as present needs are concerned, there are even today three million unemployed persons, the majority of whom are employable and will be put to work in the course of the next few months. The pace at which this is happening may be judged by the fact that in the last few months alone the number of unemployed has decreased by more than one million, despite seasonal fluctuations in industry and the decrease in the output of civilian goods.

This is by no means all, or even the most important part, of the story. The greater part of America's productive effort, especially that involving skilled workers, will be achieved by change-over of our peacetime facilities to war work. Huge sectors of our industry are being thus transferred almost in their entirety, as, for example, our huge automobile plants and the numerous factories supplying them. The building construction industry is reducing its civilian work to minimum maintenance needs except as regards war housing and essential new factory building. These two instances alone make available several million trained workers for war production.

The necessity to conserve tires will reduce considerably the large numbers engaged in the servicing of civilian automobiles and in oil and gasoline distribution. Many other civilian branches of our American economic life will likewise contribute their quota of workers. Large numbers now in domestic or personal service are going into war work. But by and large, the greatest contribution to the working force for the production of the great varieties of supplies and munitions for war will come from the diversion of America's productive facilities from the manufacture of goods for civilian use.

It is more than mere numbers of people that are being shifted to war industries. As a people, we have long taken a keen interest in machines. It may truly be said that our men are machine-minded. This is of the utmost importance, for much of the war work involves the setting up and operation of machines. Furthermore, many women who may be called into industry have had previous experience and can quickly become useful.

Another factor that should not be overlooked is that methods of mass production, in which this country holds the leadership, have gained tremendously in efficiency since the first World War. Indeed, part of that gain is actually traceable to the industrial emergency created at that time, which American mechanical and management genius overcame. Furthermore, our human resources in man power and woman power have increased very appreciably in

the interim, whereas in Germany itself, and even in the territory that it now controls, the increase in man power was small between the beginning of the first World War and the present World War. Our workers are free people, with a tremendous stake in victory, whereas our enemies depend more and more on enslaved labor in conquered countries, who slow down and sabotage Axis production at every opportunity. We have the edge also with respect to the equipment of our industries, including much new machinery, whereas the industrial plants of the Axis countries have long been overtaxed and may well be showing appreciable deterioration. With all these factors in our favor, we have every right to be confident of our power to outbuild our enemies in the materials necessary for war.

Accidents Costly in Man Power

THE intensive safety campaign following President Roosevelt's plea to reduce our heavy accident toll has drawn attention to a situation most serious in these days, when every available man is needed for our all-out war effort and when every hour counts in our industrial effort. Probably few people realize fully the magnitude of the losses incurred through fatal and other accidental injuries. This is because most accidents are isolated cases rather than mass catastrophes and are spread wide over the whole country.

If we could restore to life the youths and adult males killed in accidents of all kinds in the United States in the past decade, this would add 250,000 men to those subject to the draft in the ages 20 to 44. Such a number of deaths as this on the battlefield would represent 16 Army divisions of more than 15,000 men each, or practically the whole of our regular Army as constituted only two years ago.

Motor vehicle accidents alone contributed heavily to the loss of potential soldiers, sailors, or fliers. Of the 250,000 fatalities among youths and adult males, nearly 110,000, or more than two fifths, resulted from injuries sustained in automobile and other motor vehicle mishaps. This loss equals in number the men in seven Army divisions.

In industrial man power the aggregate loss due to accidents arising out of or in the course of employment is startling. It is generally estimated that actual employee absenteeism due to temporary disabilities sustained in occupational accidents in the United States averages at least 800,000 employee days each week. This equals the number of employee days required to produce 65 heavy bombers.

In addition to these losses from temporary disabilities, allowance must also be made for the very serious losses when a man is killed or permanently disabled, so that his contribution to industry is either

entirely lost or is very seriously impaired. Last year there were some 18,000 persons killed in work accidents, and more than 90,000 others suffered permanent disabilities. Industry evaluates each of these occupational fatalities as the loss of 6,000 employee days, and attributes to the permanent disabilities proportionate losses according to the nature of the injury. The employee days lost on account of these items mount to an average of approximately 4,000,000 each week—equal to the working time necessary to build eight destroyers. While the losses of working time through these causes for any one week's accidents are spread over the extended period of the disability, including an allowance for deaths, and are not concentrated in that particular week, this is balanced by the fact that there is at any time an accumulation resulting from the prolonged disabilities and deaths from accidents in previous weeks, so that on a long-time average, the figure of four million employee days may be taken as roughly representative of an average week's losses from permanent disability and deaths. Heavy as are these various losses from work accidents, the loss from off-the-job accidents among workers is far greater.

Aside from the injuries to workers, accidents cause serious obstructions to production in other ways also. Much valuable time is lost while machines, tools, or other properties damaged in accidents are being repaired or replaced; co-workers are upset; and vital time is spent in instructing substitute workers.

We should be deeply concerned with the safety of men of ages 20–44. It is on them that the burden of the war effort will be heaviest. Unquestionably, accident prevention is a serious challenge to both labor and management as industry strives to surpass the enemy in producing materials essential to warfare. Difficulties will present themselves in the unfamiliar tasks that must be undertaken and completed. Precious time lost now cannot be made up later.

Australia and America—A Parallel

IN NO other country than Australia will American men serving overseas find a population with characteristics so much like our own. These men have come to a country speaking their language, with a standard of living at least as high, but with a climate not quite as varied as their own. A comparison of some of the characteristics of the two countries is interesting as showing a few contrasts but many more similarities.

Although the area occupied by Australia—almost 3,000,000 square miles—is only just a little under that of the United States, its population is somewhat less than 7,000,000; our own population of 133,000,000 is about 19 times that number. Not all of the Australian continent is habitable, about one third of it

being practically desert land. The country is highly urbanized. In fact, almost half the people live in its six largest cities, and about two thirds live in urban areas, mainly along the southern and eastern shores. In the United States the census for 1940 showed that 56.5 percent of the people lived in urban centers of 2,500 or more population.

One fifth of Australia's breadwinners are in normal times engaged in agriculture, forestry, and mining. More than one quarter of its occupied workers are ordinarily engaged in industrial activities, such as manufacturing, building, road construction, etc. Commerce, finance, transportation, and communication give a livelihood to about one fifth of the workers. About one out of every 14 breadwinners is employed in personal or domestic service, and an equal proportion in public administration or professional work.

All but a very small percentage of the Australians are of British origin, although within the last two decades there have been large numbers of settlers from Italy, Greece, and Yugoslavia. It has long been Australia's policy to restrict the admission of Asiatic and other colored immigrants.

The sex and age composition of the Australian population is curiously alike to ours. For example, males constitute just over half of the population, 50.5 percent in Australia and 50.3 percent in the United States. The population under 20 years of age is 33.9 percent of the total in Australia and 34.8 percent in this country. The broad age group 20 to 64 years contains 58.9 percent of the Australian population and 58.5 percent of the total for the United States. The age group over 65 is slightly more strongly represented in Australia (7.2 percent) than in our population (6.7 percent).

Our birth rates also are not far apart, and their trends are similar. In 1915, Australia had a birth rate of 27.1 per 1,000, at a time when our recorded birth rate was 25 per 1,000. By 1930 the rate for Australia had fallen to 19.9 and ours to 18.9. In 1939, the latest year for which comparable figures are available, the birth rates were 17.7 and 17.3 per 1,000, respectively. The Australian marriage rates, on the other hand, are somewhat lower than ours, which, as a matter of fact, are among the highest in the world.

Australia has long had an enviable and well-deserved reputation for its good health conditions. In prewar times only New Zealand had mortality and longevity records more favorable. Our own death rates have always been somewhat higher than those of Australia, although in recent years, with the marked improvement in our death rates, the two series have approached each other. Since the beginning of the century, the crude death rate in Australia fell from 12.2 per 1,000 in 1901 to a minimum of 8.6 in 1930, after which it rose to 9.9 in 1939. This rise in the rate during the last decade is a direct consequence of the aging of the population, and when adjustment is made to eliminate this

factor it is found that the mortality in the closing years of the decade was practically the same as at the beginning. Our own rates began the century at a materially higher level, 16.5 per 1,000 in 1901, but descended almost continuously to an all-time low of 10.6 in 1939. Thus the crude death rate in the United States, though formerly materially above that in Australia, was only 7 percent higher in 1939.

The recent mortality figures for white persons in the United States are particularly close to those of Australia for certain age groups. Thus in 1939, at ages under 25 years the Australian rate was 3.27 per 1,000 and ours 3.31. At ages 65 and over, the rates also were almost identical, 70.7 for Australia and 71.1 for the United States. In the middle registers of life, from 25 to 64 years, there is a slight advantage in favor of Australia.

Since the death rate from all causes is somewhat more favorable in Australia than here, the more important causes of death, such as diseases of the heart, cancer, accidents, and diabetes, follow suit. Australia is famous for its brilliant record of low infant mortality. Although our mortality for white infants in the two decades from 1920 to 1939 has registered the very creditable decrease from 86 to 48 per 1,000 live births, Australia has done still better with a drop from 69 to 38 per 1,000 live births. As matters now stand, the mortality of white infants in our country is still about 25 percent higher than that in Australia, but it is rapidly declining to a similar low level.

There are a few of the more important causes of death in which we, by a small margin, better the record of Australia, the chief of these being tuberculosis and influenza and pneumonia.

Such are some of the principal characteristics of our Australian allies. Their way of life, founded upon democratic ideals and based upon a high standard of living, is much like our own. They are our natural allies, and they will be found equally vigorous in the defense of their liberties and equally resourceful in carrying the war to a successful conclusion.

Heart Disease and Public Health*

HEART disease is the outstanding medical problem today, and it will be increasingly so in the future because more and more of our people are living to those advanced ages when heart disease is most prevalent. The number of persons of ages 65 and over is already nine millions and, it is estimated, will reach 22 millions in 1980. Clearly, the health officer cannot ignore a field so vital to the public welfare. Our present medical practices in handling the large volume of chronic heart disease in older persons will require considerable modification, and in this

*Abstract of paper by Louis I. Dublin, American Heart Association, Cleveland, Ohio, May 30, 1941 published in *American Heart Journal*, January 1942.

the health officer must prepare to take an increasingly active part. At the same time, he can function usefully in those types of heart disease in children and young adults in which large-scale preventive measures are possible. By helping to control rheumatic fever and syphilis, he will cut deep into the chief causes of heart disease under age 45.

Between ages 5 and 9, deaths from rheumatic heart disease are outnumbered only by those from the four principal communicable diseases of childhood combined. At ages 10 to 14, this disease is the leading cause of death, and at ages 15 to 24 it is second only to tuberculosis. By its very nature, rheumatic fever is a disease in every phase of which the health officer can be of great help. He may actively participate in case-finding. He can take over or amplify facilities for the treatment and care of children with the disease. His laboratory can function in research in rheumatic fever. His records may help to unravel the complex epidemiology of the disease.

In the control of syphilis, another potent cause of heart disease, the health officer has already contributed much. The task of the health officer in this field is manyfold—prevention, finding the victims, providing adequate facilities for their treatment and seeing that these are used. Today these efforts need to be intensified. With huge numbers of young men now concentrated in military camps and crowded in new areas housing war industries, the number of cases is likely to increase. If preventive measures and treatment facilities are not sufficiently expanded, we may lose the gains of the last 10 years in this field.

The most difficult aspect of heart disease, however, both for medicine and public health, is presented by the relatively large number of persons, chiefly men in the prime of life, who fall prey to early and sometimes preventable heart and coronary artery diseases of other etiological types. The premature development of many early cases is probably due to faulty living habits in the routine of daily life, or to lack of attention to infections. Popular health education, under the auspices of the health officer, can do much in correcting this situation. He can also help in the early detection of incipient heart disease by popularizing the periodic medical examination, and possibly also by providing public clinics for such examinations of persons who cannot afford to pay for this service.

The public health officer can efficiently and economically utilize available public medical resources for care of persons with early heart disease. For example, considerable numbers of working men and women with cardiac disease would benefit from relatively short periods of sanatorium care, where prescribed rest and other measures would be carried out better than in the atmosphere of worry and strain of the home and work place. In a few places the overbuilt sanatorium facilities for tuberculosis or other

hospitals not fully utilized could be devoted to this purpose.

The health officer can make increasing use of the visiting nurse services under his supervision for chronic cardiac disease and, when such services are lacking or deficient, can develop or amplify them. Visiting nurses now operating very widely all over the country are of value not merely in bedside care, but in the field of psychological adjustment of the patient or his family, and in interpreting the doctor's instructions to them. These phases, often neglected because they take more time than the busy physician can give them, can be handled well by visiting nurses.

Old people with cardiovascular disease present a somewhat different set of problems for the health officer. The number of these elders is already so great and so rapidly increasing, the period of their disability is so long, and the medical costs involved so far beyond the resources of most sufferers, that there is urgent need for a long-range program for their care. The very economics of the situation make it impossible for the ordinary relationships of physician and private patient to be fully effective. A major part of the financial burden, therefore, must be borne by public funds. Public health officers have a responsibility here and should seek the help and guidance of the whole medical profession in developing programs for the care of these patients that are consonant with the welfare of the patients, the public, and the doctors. A larger number of public clinics, run by full-time physicians, is the most desirable solution for impoverished ambulant patients. For many such patients who are confined at home, public medical service may be necessary, but the work of physicians may be lightened and rendered more efficient by the proper use of visiting nurses and medical social workers. Increasing numbers may best be handled in institutions, but these need not be elaborate and costly hospitals. Advancement of some of these measures which conserve our medical resources is all the more important today because of the threatened shortage of physicians and nurses.

Heart disease, then, presents many different tasks, responsibilities, and opportunities for public health officers. But before any large-scale advance can be made, they must accept the view that heart disease is a proper field of work for them and win over the medical profession to that view. They need also to agree on the respective roles of the private and the public physician. In this respect, the situation in heart disease is similar to that which prevailed in tuberculosis about 30 years ago. Once it was realized that that disease, so widespread, yet everywhere so concentrated among poor people, was largely the province of the public authorities, constructive steps were taken, one after another, by health officers and physicians in developing new procedures, with a result that within a single generation

prodigious advances were made in cutting down the ravages of tuberculosis, and even in developing an understanding of the nature of the disease itself. Heart disease presents more varied and more difficult problems. The health officer has an important role in their solution.

Excellent Health Record of Early War Months

AMERICA, in these early months of the War, has enjoyed a period of extraordinarily good health. As a result, the death rate for the many millions of wage-earners and their families insured in the Industrial Department of the Metropolitan Life Insurance Company established, in the first three months of 1942, another new low for this period of the year. In fact, the figure—8.1 per 1,000—is more than 10 percent below the average rate recorded for the same period in the preceding 10 years. Such data as are available indicate that excellent health conditions have prevailed in the general population as well.

An improvement in mortality over last year was registered for almost all of the important causes of death, and no less than nine diseases have recorded lower death rates than ever before. These include not only several diseases with low mortalities in recent years, such as typhoid fever, scarlet fever, whooping cough, diphtheria, syphilis, and appendicitis, but also such important diseases as influenza, pneumonia, and tuberculosis.

Pneumonia Continues to Decline

The most striking feature of the report is, as it has been for several years past, the remarkable reduction in the mortality from pneumonia. The year-to-date rate of 41.9 per 100,000 is not only 18 percent below the figure of 51.2 registered in the same period of 1941, but is 37 percent below the average for the past four years, during which the sulfa drugs have been coming into general use. It is 61 percent below the average of the five years immediately preceding the introduction of this new treatment. Inasmuch as this is the season of the year when pneumonia takes its highest toll, the low rate reported at this time augurs well for the full year's record.

Tuberculosis Maintains Downward Trend

A continuation in the downward trend in the mortality from tuberculosis is especially gratifying, as fears had been expressed in some quarters that the war effort might already have produced an unfavorable reaction in this disease. So far, it appears that the efforts in the control of tuberculosis have continued the long series of successes that carried us through even the depression years. The death rate for tuberculosis in the first quarter of this year is only 42.6 per 100,000, as compared with rates of 56.3 and

72.2 registered five and ten years ago, respectively.

Communicable Diseases of Childhood

The communicable diseases of childhood as a group and three of them separately — namely, scarlet fever, whooping cough, and diphtheria—have registered an all-time minimum death rate. Only one of the group, whooping cough, shows a rate as high as one per 100,000; for the others the rates are identical, namely 0.6 per 100,000.

The Degenerative Conditions

The most important diseases of middle and later life are cancer, diabetes, and the cardiovascular-renal diseases. For all of these the 1942 record is favorable, as compared with 1941, diabetes being down 10 percent, and cancer and the cardiovascular-renal diseases as a group each 3 percent. The decrease from the preceding year in the total death rate is largely the result of the decline in this group of diseases, which always account for a large part of the total deaths.

Reflecting in part the increasing average age of the policyholders, the death rates from these diseases over a longer period of time show an upward trend, cancer by 6.7 percent for 1942, as compared with the average for the preceding 10 years, diabetes by 3.4 percent, and the cardiovascular-renal diseases by about 1 percent. It is all the more gratifying that at least for the last year there has been a decline in these diseases, which are particularly intractable in the present state of medical science.

Few Causes Make Poorer Showing in 1942 than in 1941

One of the few diseases to show a rise in rate this year, as compared with last, are diseases of the puerperal state. The rate based on the total number of Industrial policyholders increased from 4.1 to 4.5 per 100,000, or approximately 10 percent. While exact data are not available to determine just how much of this was due to the rise in birth rate, it is probable that most, if not all, of it resulted from an increase in the number of women exposed to the hazards of pregnancy and childbirth. Provisional figures for the number of birth certificates returned by 39 States and the District of Columbia during the first two months of 1942 indicate an increase of 10.2 percent in births in the general population.

Another group of conditions with unfavorable experience in the first quarter of 1942 were the external causes, all but suicides, which declined. Homicides and accidents are higher than in 1941. Among the accidental deaths, those from occupational accidents and from motor vehicle accidents, in particular, are up. Home accidents remain approximately the same as last year. The war deaths reported to the Company in the first three months of 1942, five per 100,000, account for a part of the rise in the death rate from external causes.

Comparative Data on the Causes of Death Among Industrial Policyholders

The following table shows the mortality among Industrial policyholders for March 1942 and March 1941, together with the death rates for the first three months of 1942, 1941, and 1940.

DEATH RATES* PER 100,000 POLICYHOLDERS FROM SELECTED CAUSES. WEEKLY PREMIUM-PAYING INDUSTRIAL BUSINESS — METROPOLITAN LIFE INSURANCE COMPANY

CAUSES OF DEATH	ANNUAL RATE PER 100,000 POLICYHOLDERS*				
	March 1942	March 1941	Year to Date: End of March		
			1942	1941	1940
ALL CAUSES—TOTAL	837.6	814.6	814.5	845.1	850.2
Typhoid fever	0.1	0.3	0.1	0.5	0.5
Measles	1.1	1.3	.6	.8	.4
Scarlet fever	.6	.9	.6	.6	.8
Whooping cough	1.1	1.6	1.0	1.5	1.5
Diphtheria	.4	.6	.6	.7	1.2
Influenza	8.1	13.0	7.3	20.8	16.5
Pneumonia (all forms)	45.0	43.5	41.9	51.2	56.8
Tuberculosis (all forms)	43.9	46.1	42.6	45.3	45.6
Tuberculosis of respiratory system	39.8	41.8	38.6	41.3	41.9
Syphilis	10.7	10.9	10.2	11.6	12.6
Cancer (all forms)	104.8	104.0	103.2	106.8	104.6
Diabetes mellitus	29.5	29.9	30.0	33.5	33.3
Cerebral hemorrhage	70.5	68.4	66.3	68.0	66.8
Diseases of the coronary arteries and angina pectoris	65.5	59.4	64.1	60.9	55.8
Other chronic heart diseases†	176.6	173.8	174.5	184.6	181.8
Diarrhea and enteritis	3.2	3.8	3.6	3.3	3.7
Appendicitis	5.0	6.8	5.3	7.6	9.0
Chronic nephritis	57.3	57.6	55.6	59.6	63.5
Puerperal state—total	4.8	3.8	4.5	4.1	5.0
Suicides	7.8	6.9	7.1	8.0	8.0
Homicides	3.6	3.0	3.7	3.4	3.1
Accidents—total	51.6	43.8	50.7	46.8	44.1
Home accidents	13.1	11.3	12.5	12.8	14.7
Motor vehicle accidents	18.2	17.5	20.2	19.8	15.7
War deaths	7.8	.1	5.1	.1	.1
All other causes of death	138.7	134.9	135.9	125.4	135.6

*The rates for 1941 and 1942 are subject to slight correction, since they are based on provisional estimates of lives exposed to risk.

†International List (1940) titles 92, 93 (c), (d); (e), and 95.

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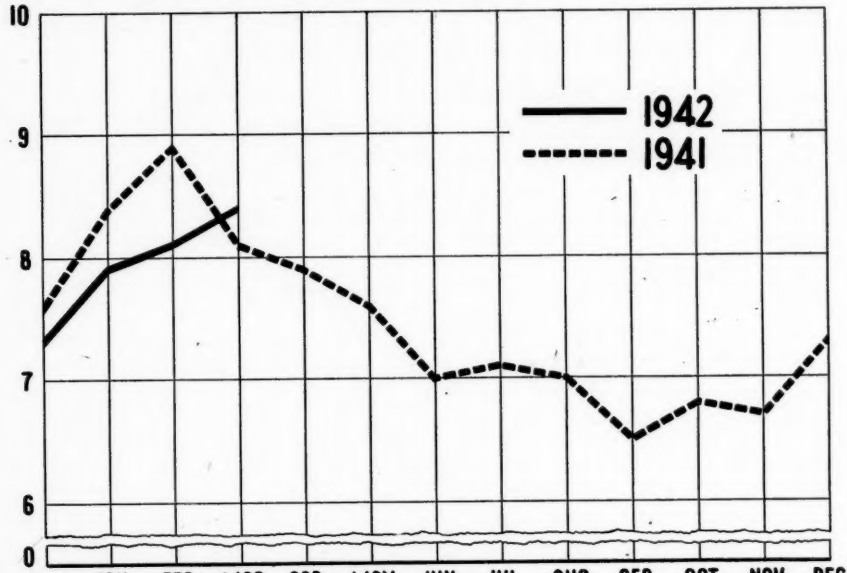
MORTALITY FROM ALL CAUSES

METROPOLITAN LIFE INSURANCE COMPANY
INDUSTRIAL DEPARTMENT, WEEKLY PREMIUM-PAYING BUSINESS

DEATH RATES PER 1,000 · ANNUAL BASIS (Provisional)



(DEC.)	JAN.	FEB.	MAR.	APR.	MAY	JUN.	JUL.	AUG.	SEP.	OCT.	NOV.	DEC.
1941	8.4	8.9	8.1	7.9	7.6	7.0	7.1	7.0	6.5	6.8	6.7	7.3
1942	7.9	8.1	8.4									

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